

Name_____

Ch 3 Study Guide CP Living

Who was the Greek philosopher who coined the term 'atom'?

What are the five points of Dalton's atomic theory?

Which points of Dalton's atomic theory are incorrect by today's standards? **Explain why.**

Explain who used the cathode ray tube and what they found using it?

What was done in Rutherford's gold foil experiment? Explain with a picture.

What were Rutherford's conclusions about the atom and its structure?

What are the three parts of the atom? Where in the atom are they found? What are the charges and masses of each?

Define the term isotope.

The chlorine isotopes are listed below, what is the average atomic mass of chlorine?

Isotope	Atomic Mass (amu)	% Abundance
Chlorine-35	34.97	75.53
Chlorine-37	36.97	24.47



Complete the table below:

Element	Atomic Number	Mass Number	Atomic Mass	Number of Protons	Number of Neutrons	Number of Electrons
Fluorine (F)						
Palladium (Pd)						
Ba ²⁺						
P ³⁻						

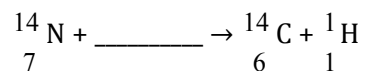
What makes an isotope stable or not?

What are the three possible emissions when an atom decays?

Write or finish the following reactions:

alpha decay of ²²⁸Ra

beta decay of ¹⁵O.



The half-life of cobalt-60 is 10 minutes. If you start with a 100 g sample of cobalt-60 how much is left after one hour?

It takes 18 minutes for a 200 g sample of ²¹⁸Po to decay to 3.12 g. What is the half-life of ²¹⁸Po?